

Compatible Multiples

You need ☒ a classmate

Activity

Kim-Ly and Nio have several fraction and decimal-place problems to solve. They try the first one: $5 \times 15 \times 0.2$

That's 15.

How did you work that out so quickly?

$5 \times 0.2 = 1$,
so $5 \times 0.2 \times 15 = 1 \times 15$
 $= 15$.

No sweat!

I see! First you looked for numbers that multiply together to make whole numbers.

Numbers are compatible if they multiply together to make a number that's easy to use. 5 and 0.2 are compatible. They multiply to make a whole number, 1.

1. Solve the problems below, using compatible numbers to make them easier. Explain what you did by showing your working as in Kim-Ly's example.

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|--------------------------------------|---|---|
| a. $5 \times 7 \times 0.2$ | b. $0.5 \times 31 \times 4$ | c. $1.5 \times 18 \times 2$ |
| d. $7 \times 0.25 \times 4$ | e. $\frac{1}{3} \times 7 \times 3$ | f. $\frac{1}{2} \times 37 \times 20$ |
| g. $18 \times 34 \times \frac{1}{9}$ | h. $8 \times 125 \times \frac{1}{4}$ | i. $13 \times \frac{1}{7} \times 14$ |
| j. $23 \times \frac{1}{6} \times 18$ | k. $15 \times 0.25 \times 0.2 \times 8$ | l. $\frac{1}{8} \times 25 \times 16 \times \frac{1}{5}$ |

2. Think of 10 sets of numbers that would multiply together to make 2. Include some fractions and some decimals.

3. Make up four problems that include decimals and fractions and can be solved by finding compatible numbers. Give them to a classmate to solve.

4. Now make up a decimal multiplication problem and a fraction multiplication problem that use compatible numbers and have 20 as the solution. Compare your problems with a classmate's.

